

# Problem Solving



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## Problem Solving in RTI

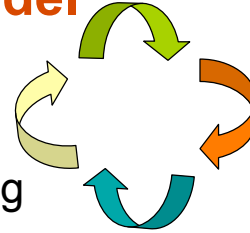
- **Systems Level: Identify areas of need**
  - Core curriculum and evidence-based interventions for specific skill deficits
  - Data management systems
  - Professional development
- **Student level: Identify student need**
  - Students in need of supports in addition to the core curriculum in reading, math, social skills
  - Students in need of further evaluation
  - Monitoring of progress
  - Students who progress and can be EXITED from extra supports.

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## Problem Solving Consultation Model

- Uses scientific method
- Data feedback loop
- Data-based decision making
  - Eliminates bias
  - Takes subjectivity out of decisions
- Can be applied:
  - System vs. individual level
  - Regardless of “presenting problem”



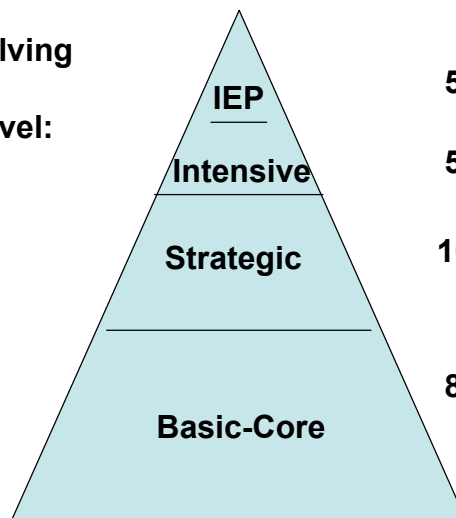
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## The RTI Process: A System of Instructional Supports GUIDED by Assessment Data

**Problem Solving at the Systems Level: Key is**

**DATA  
DATA  
DATA**

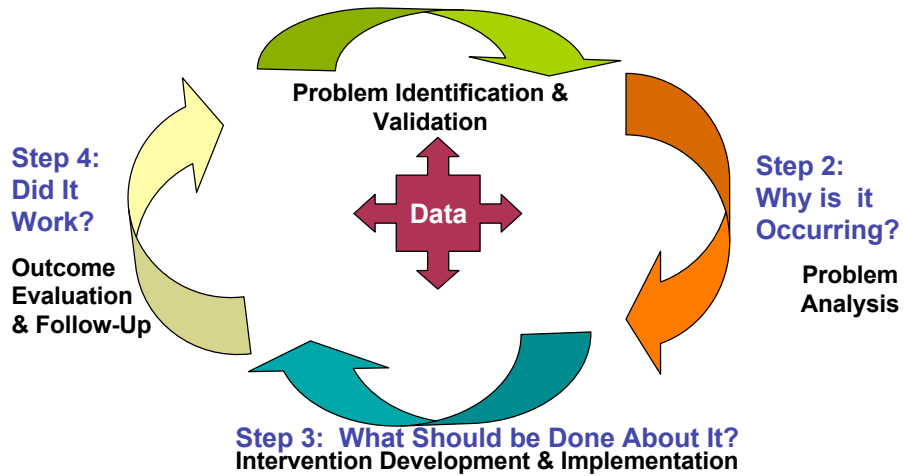


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## The 4 Questions and 4 Steps in Problem Solving

Step 1: What is the Problem?



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## Benefits of Problem Solving



- ✓ Systematically Defines Levels of Need within a School: primary, secondary, and tertiary
- ✓ Addresses Academic and Behavioral Problems
- ✓ Utilizes Research Based Methods to Deliver Evidence-Based Interventions

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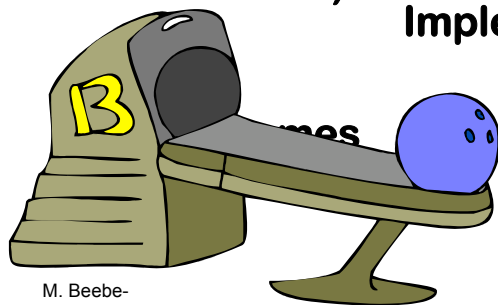
# The 4 Steps of Problem Solving

1) Define the problem

2) Analyze the problem

3) Generate solutions and  
Implement a plan

4) Evaluate

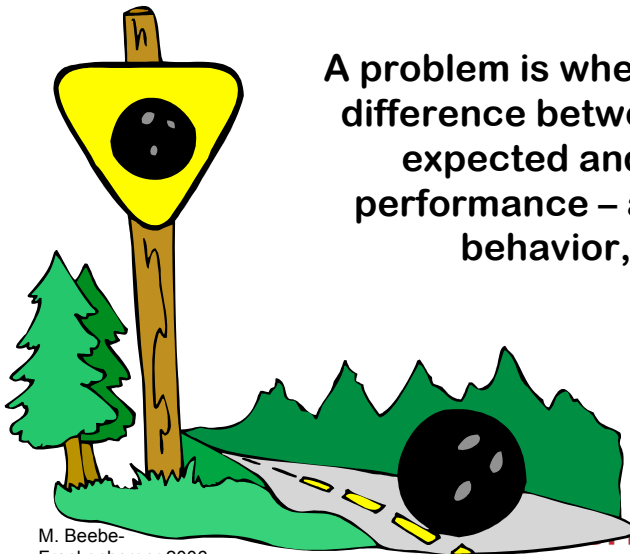


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## Step One: Define the Problem

A problem is when we have a  
difference between what is  
expected and actual  
performance – academic,  
behavior, etc.



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## Step 1: What is the Problem?

### Problem Identification & Validation

- Expectation versus current performance  
Identify & validate the “discrepancy”
- Select appropriate measurement –
  - define “problem” in terms that are
    - objective
    - observable
    - measurable
  - Measurement precision pivotal to progress monitoring, goal setting, and outcome

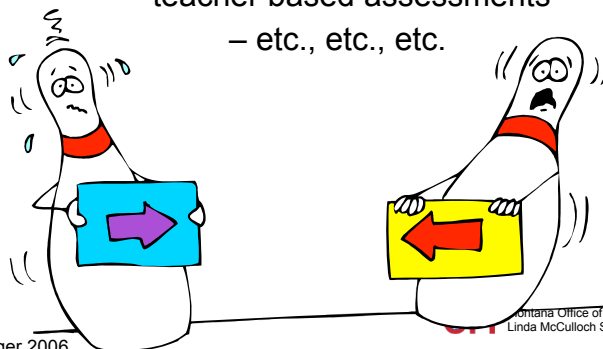
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## Step Two: Analyze the Problem

**Determine WHY it is happening:  
(Gain Something? Avoid Something?)**

- observe student
- interview student/parent
- teacher based assessments
- etc., etc., etc.



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## Step 2: Why is it Occurring?

### Problem Analysis

- “In this stage of the process instead of measuring student performance to find disabilities, our purpose is to **diagnose the conditions under which students’ learning is enabled**” (Tilly, 2002)
- Is problem a skill or performance problem – “can’t do vs. won’t do”
- Gather information on why problem exists
  - Multimethod, multi-informant
  - Understand under what conditions the problem exists (patterns, factors, etc.)
  - Focus on what can be changed to enable learning and reduce discrepancy between performance and expectation
- Make hypotheses about “why” (function) based on your findings

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## 5 Reasons for Academic Deficits



1. They do not want to do the task.
2. They have not spent enough time doing the task.
3. They have not had enough help to do the task.
4. They have not had to do the task that way before.
5. The task is too difficult

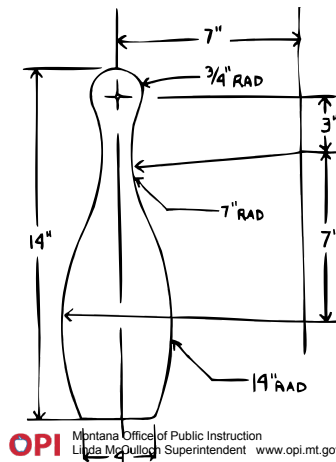
(Daly, Witt, Martens, & Dool, 1997 p. 556)

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## 5 Reasons for Behavior

1. **Social attention/communication** (possible social reinforcement)
2. **Access to tangibles** or preferred activities (material or activity reinforcement)
3. **Escape, delay, reduction, or avoidance of aversive tasks or activities** (negative reinforcement)
4. **Escape or avoidance of other individuals** (negative social reinforcement)
5. **Internal stimulation** (automatic or sensory reinforcement)



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## Step Three-A: Generate Solutions

Solutions must be specifically designed to target the reason (function) for the academic and/or social behavior.



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## Shapiro, 2000

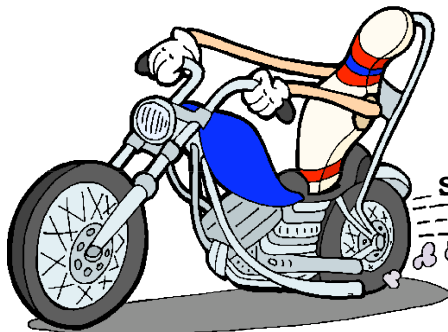
**Table 1**  
**Keystones to Building Competence and Resilience**

	Social	Academic
Attachment	Key interpersonal relationships	Extended support system for school performance (family, peer, key persons)
	Solid foundation of trust	
Academic Achievement	Success in academics	Early skill development in academic foundations (phonemic awareness, number sense)
	Cognitive capacity	
		Cognitive capacity
		Academic self-efficacy
Self-Regulation	Control of emotion	Self-regulated learning processes
	Control of attention	
	Self-efficacy	Early skill development in academic foundations (phonemic awareness, number sense)

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## Step Three-B: Implement the Plan

- Develop a written plan outlining roles/responsibilities



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- Provide staff/student training for intervention implementation
- Design an observation schedule to monitor/assist intervention
- Treatment Integrity

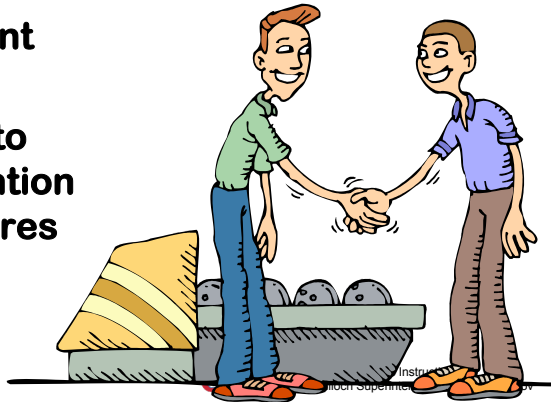
**measures**

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# Intervention Implementation

- **Model the use of the intervention for teacher and student**
- **Set up a system to follow-up on intervention successes and failures**



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## Step 3-A&B: What Should Be Done About It? Intervention Development and Implementation

- Intervention based upon Step 2 hypotheses “why”
- Select intervention strategies based upon:
  - Functional relevance to the problem
  - Contextual fit
  - Likelihood of success (measure acceptability)
  - Evidence-based methods/interventions
- Team Brainstorming!.....CRITICAL
- Decide upon intervention and clarify intervention steps, roles, responsibilities
- Decide upon progress monitoring & outcome evaluation techniques
- Establish timelines for meeting benchmarks & goals
- Measure treatment integrity (is the intervention being implemented as planned?...are there modifications?)

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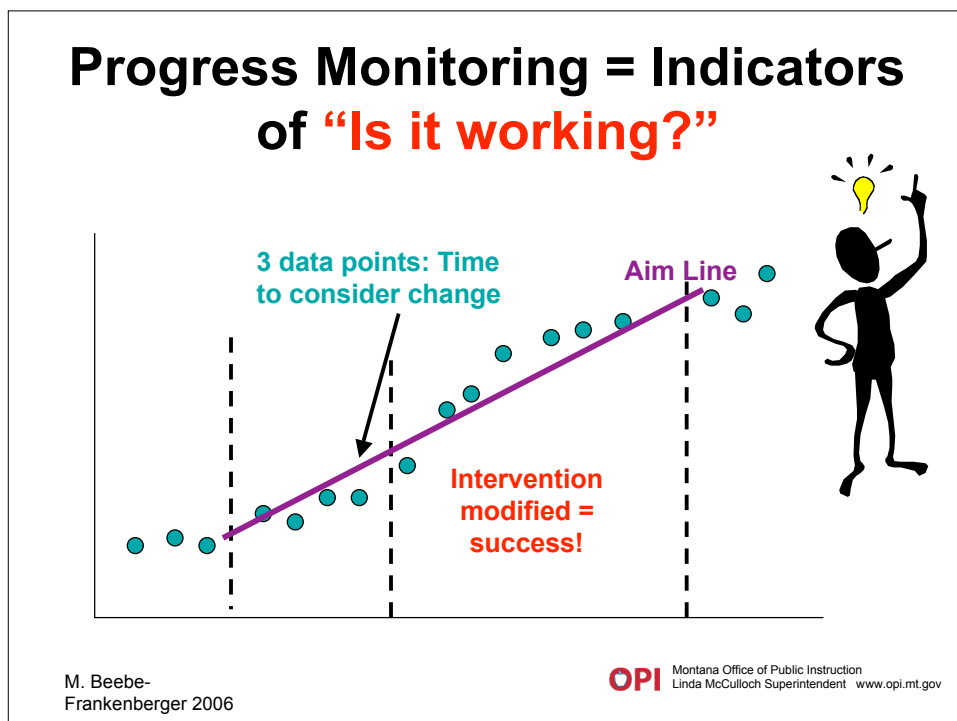
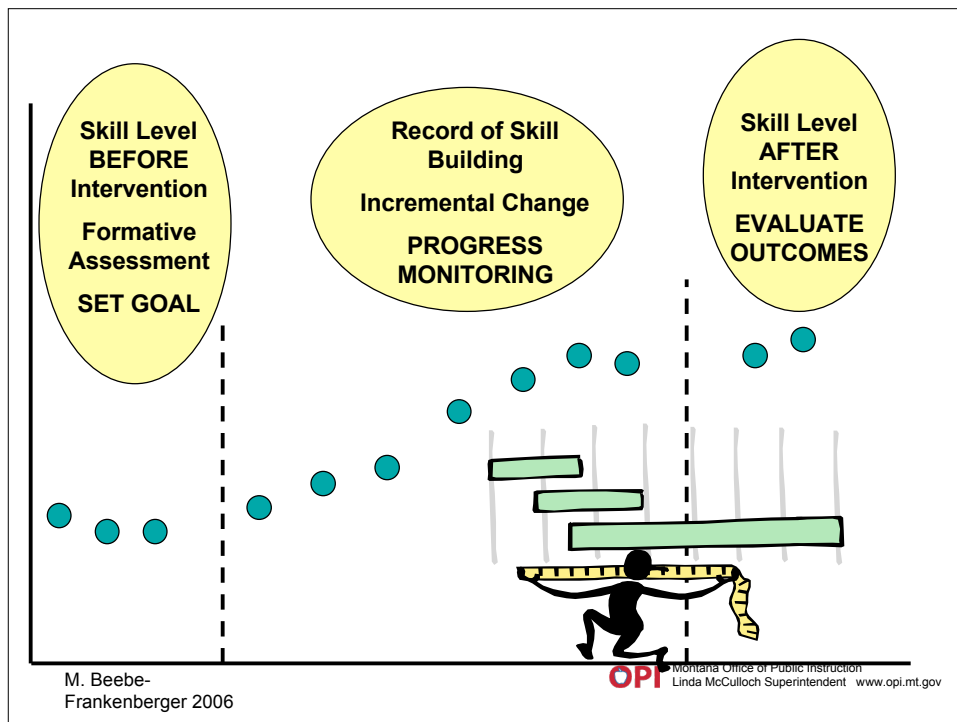
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NAME		SCORE CARD										FINAL SCORE
		THE WINNER ➡										

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## Sticking to the Plan: Treatment Integrity

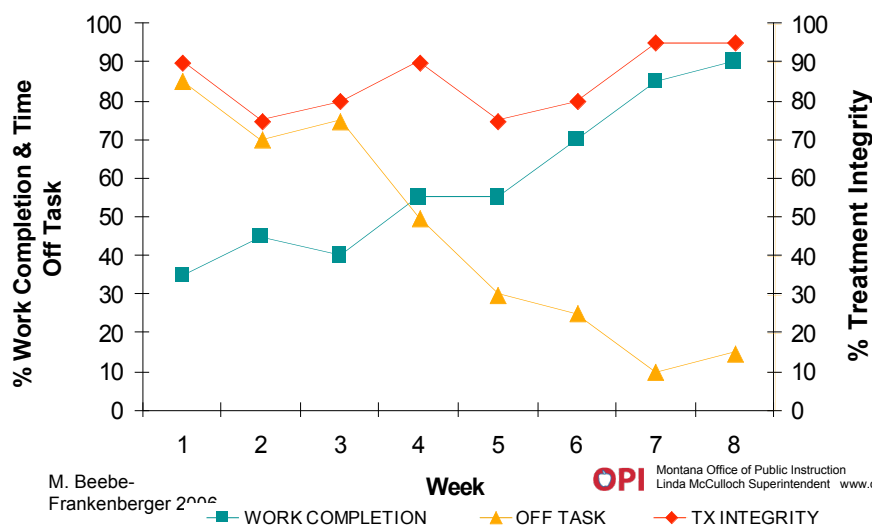


- **Definition:** The degree to which intervention procedures are implemented as intended
- Failure to implement with integrity threatens internal and external validity of treatment
- Treatment integrity is often assumed, rather than assessed
- Outcomes cannot be attributed to the intervention unless one measures the extent to which the intervention plan was implemented

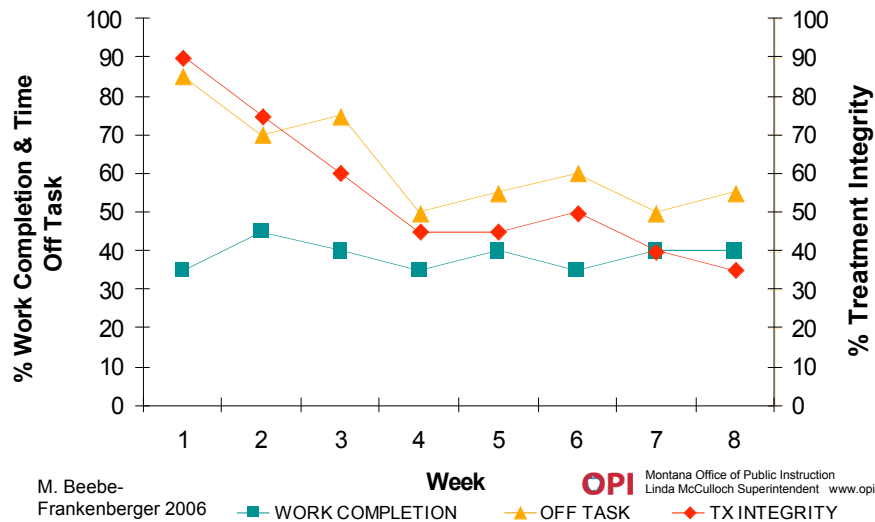
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## Graph Progress with Integrity: Good Implementation



## Graph Progress with Integrity: Poor Implementation



## Step Four: Evaluate Outcomes

- Assess goal attainment outcome at end of intervention as indicated by
  - Formative assessment; progress monitoring data
  - Summative assessment
  - Generalization and maintenance
  - Collateral effects
  - Extent of treatment integrity
- Assess social validity
  - Student
  - Parent(s)
  - Teachers
  - Other intervention consumers



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## Step 4: Did It Work?

- Intervention Evaluation and Follow-Up
  - Was problem (discrepancy) resolved?
  - Gather objective evidence (data)
    - Performance levels
    - Treatment integrity
    - Acceptability
    - Social validity
  - Post intervention follow-up
    - Did the performance level maintain?
    - Sustained skills = habilitative validity

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## Treatment Integrity: Addresses Specific Questions about Intervention

- Was the intervention implemented as planned?
- Did changes to intervention impact outcomes?
- Which components influenced outcomes?

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## Treatment Integrity Part of Outcome Evaluation

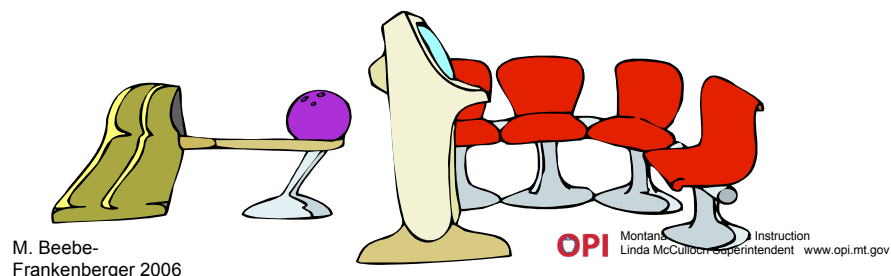
- If behavior changes do not result after a given intervention, and integrity was not monitored, it is difficult to determine
  - if failure was due to an ineffective treatment,
  - If failure was due to an effective treatment plan that was implemented with poor integrity.
- Medical Model:
  - Did you take the medicine, do the exercises, as prescribed??

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## Finding Tools to Measure Academic Proficiency/Progress

- DIBELS for elementary reading
- CBM – reading, math, spelling, written expression
- Intervention.Central.org: cbm generator
- Aimsweb – CBM & DIBELS probes



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## What About Behavior Monitoring Tools?

- ☺ BOSS (Academic Engaged Time)
- ☺ Permanent products
- ☺ Work Completion (Percent)
- ☺ Behavioral Observation
- ☺ Frequency of Disruptive Behaviors or Prosocial Behaviors
- ☺ Duration of Target Behaviors
- ☺ Latency (How Long until...)



Remember: What's the most practical course to go???

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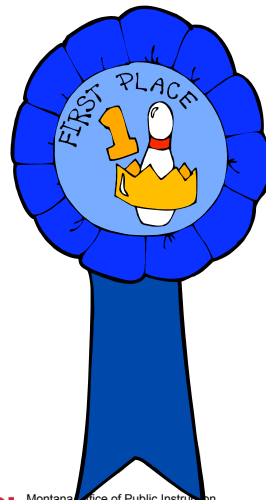


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## Making Problem Solving Teams Work

- ✓ Leadership: Time and Perception
- ✓ Staff Assignments
- ✓ Training
- ✓ Intervention Implementation Assistance
- ✓ Intervention Integration
- ✓ Data Based Decision Making
- ✓ Structured Meeting Process

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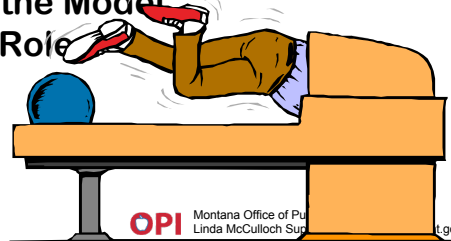


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## Before You Jump In...

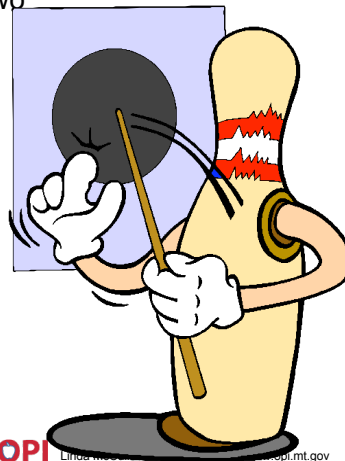
- ☐ **Building a Site Interventions Library**
  - ☺ **Not Everything Costs Money!**
  - ☺ **U of M and other resources!**
  - ☺ **Survey Your Building:**
    - 📁 Resources/Materials
    - 📁 Expertise
    - 📁 Volunteers
- ☐ **Finding/Developing Progress Monitoring Tools**
- ☐ **Talk with others Using the Model**
- ☐ **Be Flexible in Defining Role**
- ☐ **Share Responsibility**



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## Remembering the Basics

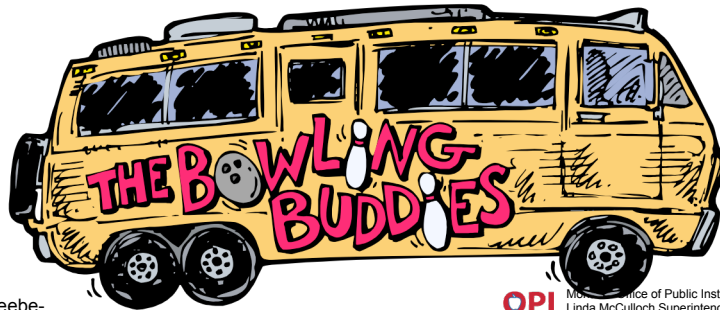
- ☐ Maintain confidentiality.
- ☐ Hold meetings in a timely manner (within two weeks of referral)
- ☐ Display agenda during meeting
- ☐ Set clear time limits.
- ☐ Be responsive to staff and student needs.
- ☐ Proficiently access and use auxiliary personnel and other appropriate resources.
- ☐ Have members that represent a variety of experience and expertise: knowledge of classroom management, curriculum and instruction, and student motivation.
- ☐ Be assets to the building principal.
- ☐ Continue to stretch and grow.



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## Great Teams

- Have experience & expertise
- Have knowledge about curriculum & classroom management
- Represent diverse groups & grade levels



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## Team Roles



- Facilitator
- Case Manager
- Time keeper
- Recorder
- Selected team members
  - Expertise in:
    - curriculum
    - classroom management
    - medical/health
    - behavior
    - special education
- Referring teacher
- Grade Level Representatives

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## Before the Problem Solving Team Referral



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- **Parent consultation**
- **Informal staff consultation**
  - previous teacher, staff working with student, etc.
- **Review CUM records:**
  - prior SAT's
  - support services (Title I, Speech, etc.)
  - discipline history
  - report cards
- **Complete Problem Solving Team Referral**

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## Problem Solving Team Meeting



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- **Include the caregiver**
- **Adhere to agenda/role responsibilities**
- **Define area of concern**
- **Develop strategies & interventions**
- **Define responsibilities**  
school, parent, teacher, student
- **Schedule follow-up meeting**  
(6-10 weeks)

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